

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property  
Organization  
International Bureau



(43) International Publication Date  
13 January 2005 (13.01.2005)

PCT

(10) International Publication Number  
**WO 2005/004039 A1**

(51) International Patent Classification<sup>7</sup>: **G06K 9/00**

(21) International Application Number:  
PCT/KR2004/001606

(22) International Filing Date: 1 July 2004 (01.07.2004)

(25) Filing Language: Korean

(26) Publication Language: English

(30) Priority Data:  
10-2003-0045278 4 July 2003 (04.07.2003) KR  
10-2003-0048723 16 July 2003 (16.07.2003) KR

(71) Applicant and

(72) Inventor: **PARK, Kwang-Don** [KR/KR]; 1513-205  
Hanareum Apt. 392, Sang-dong, Wonmi-gu, Bucheon-si,  
Gyeonggi-do 420-030 (KR).

(74) Agent: **KOH, Young-Hoe**; 1543-11, Sanwoo Bldg., 4th  
Floor, Seocho-dong, Seocho-gu, Seoul 137-070 (KR).

(81) Designated States (unless otherwise indicated, for every  
kind of national protection available): AE, AG, AL, AM,  
AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN,  
CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI,  
GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE,  
KG, KP, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG,  
MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH,  
PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN,  
TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

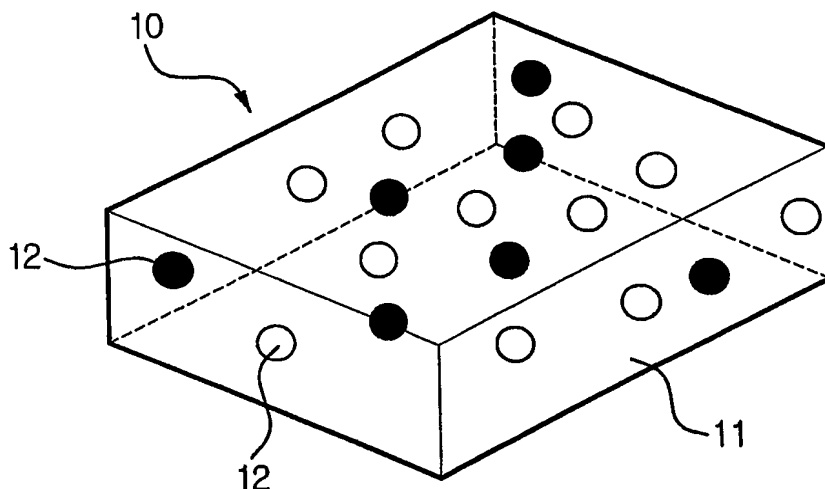
(84) Designated States (unless otherwise indicated, for every  
kind of regional protection available): ARIPO (BW, GH,  
GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM,  
ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM),  
European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI,  
FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI,  
SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ,  
GW, ML, MR, NE, SN, TD, TG).

Published:

— with international search report

For two-letter codes and other abbreviations, refer to the "Guid-  
ance Notes on Codes and Abbreviations" appearing at the begin-  
ning of each regular issue of the PCT Gazette.

(54) Title: RANDOM-TYPE IDENTIFYING MATERIAL, 3-D IDENTIFYING SYSTEM AND METHOD USING THE SAME



(57) Abstract: The present invention relates to a random type recognition object for an identification apparatus wherein identification particles are distributed irregularly within a 3D shape and a positional value and a characteristic value of the identification particles distributed within the 3D shape in one or plural directions are recognized by separate recognition means, and an identification apparatus and method using a random type recognition object whose reproduction is impossible. Furthermore, the present invention relates to a product authentication system and method in which a purchaser transmits data extracted from a recognition object distributed together with

a product using a recognition apparatus to an authentication system in order to determine whether purchased product is genuine, the authentication system transmits information on a product coincident with the received data to the purchaser, and the purchaser compares the purchased product with the information on the product received from the authentication system to determine whether the product is genuine.

BEST AVAILABLE COPY